

## REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

The claims now pending in the application are claims 1-11, 13-21, 23-29, and 31-36, with claims 1, 6, 11, 16, 21, 25, 29, and 33 being independent.

By this Amendment, claims 12, 22, and 30 have been canceled without prejudice or disclaimer and claims 1, 6, 11, 16, 21, 25, 29, and 33 have been amended. Support for these amendments can be found in the original application, as filed. No new matter has been added.

In the Office Action, claims 1, 3-11, 13-16, 18-21, 23-25, 27-29, 31-33, 35, and 36 were rejected under 35 U.S.C. § 102, as being anticipated by U.S. Patent No. 6,134,030 to Kaneko et al. Claims 2, 12, 17, 22, 26, 30, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko et al. in view of U.S. Patent No. 5,262,801 to Serizawa. Applicant respectfully traverses these rejections.

In one aspect of the present invention, claim 1 recites a document scanning device including scanning means, generating means, a plurality of transfer paths, determination means, selection means, and control means. The scanning means scans an image on a document. The generating means generates image data based on the scanned image. The plurality of transfer paths transfer the image data from the generating means, and each transfer path has an interface circuit. The determination means determines whether the image data generated by the generation means are binary data per pixel or multilevel data per pixel. The selection means selects a transfer path from the plurality of transfer paths based on the determination made by the determination means. The control means controls a scanning operation of the scanning means in accordance with the transfer path selected by the selection means.

In other aspects, claims 6 and 16 recite image processing apparatuses, claim 25 recites a control method for an image processing apparatus, and claim 33 recites a computer-readable program. Each of these claims recites, inter alia, that image data is transferred via a plurality of transfer paths, each of which has an interface circuit, and that a transfer path is controlled from the plurality of transfer paths in accordance with a determination of whether image data are binary data per pixel or multilevel data per pixel.

In still another aspect of the invention, independent claim 11 recites a document scanning device including a scanner, a transmitter, a selector, and a controller. The scanner scans an image on a document and generates image data based on the image. The transmitter transmits the image data from the scanner. The selector selects a transmission speed for transmitting the image data by the transmitter. The controller controls scanning speed of the scanner in accordance with the transmission speed selected by the selector.

In other aspects, independent claim 21 recites a control method for a scanner and independent claim 29 recites a computer-readable program for controlling a scanner. Both of these claims recite, inter alia, the steps of (i) selecting a transferring speed for transferring image data in a transferring step and (ii) controlling a scanning speed performed in a scanning step in accordance with the transferring speed selected in the selecting step.

Accordingly, in all of independent claims 1, 6, 16, 25, and 33, a transfer path for image data is selected (claim 1) or is controlled (claims 6, 16, 25, and 33) from a plurality of transfer paths, each of which has an interface circuit, in accordance with a determination of whether image data are binary data per pixel or multilevel data per pixel. Support for this feature can be found at least in, for example, Figure 2, in which a transfer path is selected based on whether image data generated by generation means are binary data per pixel or multilevel data per pixel. In that figure, binary data are output to a control

bus 1-9 via a second interface current (I/F 2) 2-12 and multilevel data are output to a multiplexer 1-6 via a first interface circuit (I/F 1) 2-6. Moreover, in all of independent claims 11, 21, and 29, a transferring speed for transferring image data is selected and a scanning speed of a scanner is controlled in accordance with the selected transmission speed.

Applicant submits that at least these features of the independent claims are not taught or suggested by Kaneko et al. or Serizawa, whether those documents are taken alone or in combination.

Kaneko et al. relates to interchangeable cartridges 101, 102 for recording and reading images, respectively. When the image reading cartridge 102 is used, the apparatus of the embodiment can operate in the binary reading mode or multivalue reading mode, as instructed by a host computer 11. 6-bit parallel multivalue image data from a processing circuit 41, 1-bit binary image data from a binarization circuit 42, and a binary mode data indicating the mode are input to a synthesization circuit 43 to form 8-bit parallel image data. This 8-bit parallel image data is then alternately written, via a selection circuit 44, into a buffer memory 45 and a buffer memory 46. A selection circuit 47 selects one of the buffer memories 45, 46 to read out the parallel 8-bit image data to a parallel/serial conversion circuit (P/S) 50 and to read out binary image data to a switching circuit 51. The P/S 50 converts the 8-bit image data into serial image data which is serially output to the switching circuit 51.

Accordingly, Kaneko et al. teaches that binary image data and 8-bit serial image data are both input to the switching circuit 51. One of these data-types are then selected by the selection switching circuit 51 and output to an output circuit 53 based on instruction of a binary reading mode or multivalue reading mode from the host computer 11. Another switching circuit 52 is also provided to select R-CLK as a transfer clock when

the binary reading mode is instructed or to select M-CLK as a transfer clock when the multivalue reading mode is instructed.

Thus, Applicant understands that the switching circuit 51 selects one of binary image data and 8-bit serial image data based on an instruction from a host computer 11, and that the switching circuit 52 selects a transfer clock based on the image data type instructed by the host computer 11. These selections are then output to the output circuit 53. However, Kaneko et al. does not teach or suggest that a transfer path is selected (claim 1) or controlled (claims 6, 16, 25, and 33) from a plurality of transfer paths based on a determination of either binary data per pixel or multilevel data per pixel, and that each transfer path has an interface circuit, as recited in independent claims 1, 6, 16, 25, and 33.

Additionally, Kaneko et al. does not teach or suggest that a transferring speed for transferring image data is selected and that a scanning speed of a scanner is controlled in accordance with the selected transmission speed, as recited in independent claims 11, 21, and 29.

Accordingly, Applicant requests favorable reconsideration and withdrawal of the rejection under 35 U.S.C. § 102.

Applicant also submits that Serizawa does not remedy the deficiencies of Kaneko et al. Serizawa is understood to teach a scanner including a polygonal mirror 102 that rotates at a predetermined rotational speed for outputting a semiconductor laser 101 to a photosensitive drum. Applicant understands that Serizawa is cited for teaching that a scanning speed of an optical scanning system can be changed in accordance with resolution information. However, nowhere does Serizawa teach or suggest either that 1) a transfer path is selected (claim 1) or controlled (claims 6, 16, 25, and 33) from a plurality of transfer paths based on a determination of either binary data per pixel or multilevel data per pixel, and that each transfer path has an interface circuit, as recited in independent claims 1, 6, 16, 25, and 33, or 2) a transferring speed for transferring image data is selected and a

scanning speed of a scanner is controlled in accordance with the selected transmission speed, as recited in independent claims 11, 21, and 29.


For the foregoing reasons, Applicant submits that claims 1, 6, 11, 16, 21, 25, 29, and 33 are allowable over the cited documents, whether those documents are taken alone or in combination. Favorable reconsideration and withdrawal of the rejections of these claims are solicited.

The remaining claims depend from one of the above independent claims and are therefore patentable over the art of record for reasons noted above with respect to

Applicant further submits that this application is in condition for allowance. An early Notice of Allowance is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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